

CLAIMS

1. An optical receptacle comprising:
a precision sleeve;
a stub with an optical fiber fixed to one end of an inner hole of the precision sleeve through an adhesive; and
a sleeve holder fixed to an outer periphery of the precision sleeve by press-fitting or through an adhesive, wherein
an outer periphery of the stub with an optical fiber and/or the inner hole of the precision sleeve has a surface roughness Ra value of 0.1 μm or more and 0.5 μm or less.
2. An optical receptacle according to claim 1, wherein the outer periphery of the stub with an optical fiber and/or the inner hole of the precision sleeve has a surface roughness Ra value of more than 0.2 μm and a surface roughness Ry value of 4.0 μm or less, and a difference between an average line and a peak line of surface roughness is 2.0 μm or less.
3. An optical receptacle according to claim 1 or 2, wherein a core of the optical fiber has a concentricity of 0.5 μm or less with respect to the outer periphery of the stub with an optical fiber.

4. An optical receptacle according to any one of claims 1 to 3, wherein the inner hole of the precision sleeve has a larger inner diameter by 0 to 1.5 μm than an outer diameter of an optical fiber connector ferrule.

5. An optical receptacle according to any one of claims 1 to 4, wherein a capillary of the stub with an optical fiber is formed of crystallized glass.

6. An optical receptacle according to any one of claims 1 to 5, wherein the precision sleeve is formed of glass or crystallized glass.

7. An optical receptacle according to claim 5 or 6, wherein the crystallized glass has a crystal grain size of 0.1 μm to 1.0 μm , and the crystallized glass contains crystals in an amount of 30 to 70 mass%.

8. An optical receptacle according to any one of claims 1 to 7, wherein the adhesive contains 10 vol% or more of fillers having a maximum particle size of 0.5 μm or less and an average particle size of 0.3 μm or less.